



Practitioner's Docket No. NEB-181

PATENT

b
#9B
Beta
5/27/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Vaisvila, et al.

Application No.: 09 /689,343 Group No.: 1636

Filed: October 12, 2000 Examiner: D. Guzo

For: Method For Cloning And Producing The MseI Restriction Endonuclease

RECEIVED

MAY 21 2002

Box Sequence, PO Box 2327
 Assistant Commissioner for Patents
 Washington, DC 20231-XXXX Arlington, VA 22202

TECH CENTER 1600/2900

SUBMISSION OF "SEQUENCE LISTING," COMPUTER READABLE COPY,
 AND/OR AMENDMENT PERTAINING THERETO
 FOR BIOTECHNOLOGY INVENTION CONTAINING NUCLEOTIDE
 AND/OR AMINO ACID SEQUENCE

(check and complete this item, if applicable)

1. This replies to the Office Letter dated May 3, 2002

NOTE: If these papers are filed before the office letter issues, adequate identification of the original papers should be made, e.g., in addition to the name of the inventor and title of invention, the filing date based on the "Express Mail" procedure, the application number from the return post card or the attorney's docket number added.

- A copy of the Office Letter is enclosed.

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*

(When using Express Mail, the Express Mail label number is mandatory;
 Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

deposited with the United States Postal Service in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231

37 C.F.R. § 1.8(a)

37 C.F.R. § 1.10*

with sufficient postage as first class mail. as "Express Mail Post Office to Addressee"

Mailing Label No. _____ (mandatory)

TRANSMISSION

transmitted by facsimile to the Patent and Trademark Office.

Date: 5/14/02

Signature

Melissa A. Jackson

(type or print name of person certifying)

*WARNING: Each paper or fee filed by Express Mail must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

NOTE: "If the computer readable form of a new application is to be identical with the computer readable form of another application of the applicant on file in the Office, reference may be made to the other application and computer readable form in lieu of filing a duplicate computer readable form in the new application. The new application shall be accompanied by a letter making such reference to the other application and computer readable form, both of which shall be completely identified." 37 C.F.R. § 1.821(e).

- E. A statement that the content of each "Sequence Listing" submitted and each computer readable copy are the same, as required in 37 C.F.R. § 1.821(g).
 Because the statement is not made by a person registered to practice before the Office, the statement is verified as required in 37 C.F.R. § 1.821(b).
- F. Because this submission is made in fulfilling the requirement under 37 C.F.R. § 1.821(g), a statement that the submission includes no new matter.
 Because the statement is not made by a person registered to practice before the Office, the statement is verified, as required in 37 C.F.R. § 1.821(g).

**STATEMENT THAT "SEQUENCE LISTING"
AND COMPUTER READABLE COPY ARE THE SAME
AND/OR THAT PAPERS SUBMITTED INCLUDES NO NEW MATTER**

4. I hereby state:

(complete applicable item A and/or B)

- A. Each computer readable form submitted in this application, including those forms requested to be transferred from applicant's other application, is the same as the "Sequence Listing" to which it is indicated to relate.
- B. All papers accompanying this submission, or for which a request for transfer from applicants' other application, introduce no new matter.

STATUS

5. Applicant is

- a small entity. A statement:
 is attached.
 was already filed.
 other than a small entity.

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 3 of 6)

IDENTIFICATION OF PERSON MAKING STATEMENT

2. I, Harriet M. Strimpel
(type or print name of declarant signing below)
state the following:

ITEMS BEING SUBMITTED

3. Submitted herewith is/are:

(check each item as applicable)

- A. "Sequence Listing(s)" for the nucleotide and/or amino acid sequence(s) in this application. Each "Sequence Listing" is assigned a separate identifier as required in 37 C.F.R. § 1.821(c) and 37 C.F.R. §§ 1.822 and 1.823.
- B. An amendment to the description and/or claims, wherein reference is made to the sequence by use of the assigned identifier, as required in 37 C.F.R. § 1.821(d).
- C. A copy of each "Sequence Listing" submitted for this application in computer readable form, in accordance with the requirements of 37 C.F.R. §§ 1.821(e) and 1.824.
- D. Please transfer to this application, in accordance with 37 C.F.R. § 1.821(e), the computer readable copy(ies) from applicant's other application identified as follows:

In re application of:

Application No.: 0 /
Filed:
For:

Group No.:
Examiner:

The Computer readable form(s) of applicant's other application corresponds to the "Sequence Identifier(s)" of the application as follows:

Computer Readable Form
(other application)

"Sequence Identifier"
(this application)

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 2 of 6)

EXTENSION OF TERM

6.

NOTE: 37 C.F.R. § 1.704(b) ". . . an applicant shall be deemed to have failed to engage in reasonable efforts to conclude processing or examination of an application for the cumulative total of any periods of time in excess of three months that are taken to reply to any notice or action by the Office making any rejection, objection, argument, or other request, measuring such three-month period from the date the notice or action was mailed or given to the applicant, in which case the period of adjustment set forth in § 1.703 shall be reduced by the number of days, if any, beginning on the day after the date that is three months after the date of mailing or transmission of the Office communication notifying the applicant of the rejection, objection, argument, or other request and ending on the date the reply was filed. The period, or shortened statutory period, for reply that is set in the Office action or notice has no effect on the three-month period set forth in this paragraph."

NOTE: "Extension of Time in Patent Cases (Supplement Amendments)—If a timely and complete response has been filed after a Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period.

If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of Dec. 10, 1985 (1061 O.G. 34-35).

NOTE: See 37 C.F.R. § 1.645 for extensions of time in interference proceedings and 37 C.F.R. § 1.550(c) for extensions of time in reexamination proceedings.

7. The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

(complete (a) or (b) as applicable)

(a) Applicant petitions for an extension of time under 37 C.F.R. § 1.136
(fees: 37 C.F.R. § 1.17(a)(1)-(4)) for the total number of months checked below:

Extension (months)	Fee for other than small entity	Fee for small entity
<input type="checkbox"/> one month	\$ 110.00	\$ 55.00
<input type="checkbox"/> two months	\$ 400.00	\$ 200.00
<input type="checkbox"/> three months	\$ 920.00	\$ 460.00
<input type="checkbox"/> four months	\$ 1,440.00	\$ 720.00

Fee: \$ _____

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

An extension for _____ months has already been secured. The fee paid therefor of \$_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$ _____

OR

(b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 4 of 6)

FEE PAYMENT

8. Attached is a check money order in the amount of \$ _____
 Authorization is hereby made to charge the amount of \$ _____
 to Deposit Account No. _____
 to Credit card as shown on the attached credit card information authorization form PTO-2038.

WARNING: Credit card information should not be included on this form as it may become public.

Charge any additional fees required by this paper or credit any overpayment in the manner authorized above.

A duplicate of this paper is attached.

RECEIVED

MAY 21 2002

TECH CENTER 1600/2900

FEE DEFICIENCY

9.

NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, 1065 O.G. 31-33.

10. If any additional extension and/or fee is required, charge
 Deposit Account No. 14-0740
 Credit card as shown on the attached credit card information authorization form PTO-2038.

WARNING: Credit card information should not be included on this form as it may become public.

SIGNATURE(S)

Harriet M. Strimpel

(type or print name of person signing statement)

May 14, 2002

Date
32 Tozer Road

P.O. Address of Signatory
Beverly, MA 01915

Signature

Harriet Strimpel

(if applicable)
Telephone No. (978) 927-5054 X:373
Reg. No. 37008
Customer No.: 28986

- Inventor(s)
 Assignee of complete interest
 Person authorized to sign on behalf of assignee
 Practitioner of record
 Filed under Rule 34(a)
 Registration No. _____
 Other _____

(specify identity of declarant)

(complete the following, if applicable)

New England Biolabs, Inc.

(type name of assignee)

32 Tozer Road

Address of assignee

Beverly, MA 01915

Secretary

Title of person authorized to sign on behalf of
assignee

A "STATEMENT UNDER 37 C.F.R. § 3.73(b)" is attached.

Assignment recorded in PTO on 10/12/00 Filed with application

Reel _____ Frame _____ not yet recorded

RECEIVED

MAY 21 2002

TECH CENTER 1600/2900

Reg. No.: 37008

SIGNATURE OF PRACTITIONER

Harriet M. Strimpel

Patent Counsel

(type or print name of practitioner)

New England Biolabs, Inc.

32 Tozer Road

P.O. Address

Beverly, MA 01915

Tel. No.: (978) 927-5054 X:373

Customer No.: 28986

(Submission—Nucleotide and/or Amino Acid Sequence [9-37]—page 6 of 6)



UNITED STATES PATENT AND TRADEMARK OFFICE

MAY 17 2002

CIP
SC-24
TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20251
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,343	10/12/2000	Romualdas Vaisvila	NEB-181	7976
28986	7590	05/03/2002		

NEW ENGLAND BIOLABS, INC.
32 TOZER ROAD
BEVERLY, MA 01915

EXAMINER

GUZO, DAVID

ART UNIT	PAPER NUMBER
1636	8

DATE MAILED: 05/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Sequence
NEW ENGLAND BIOLABS, INC.
32 TOZER RD., BEVERLY, MA 01915
Date Rec'd: 5/13/02
Ack'd Date: 6/02/02

mf.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
---------------------------------	-------------	---	---------------------



EXAMINER

ART UNIT PAPER

8

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

- SEE ATTACHMENT -

Attachment

The reply filed 4/4/02 is not fully responsive to the Office communication mailed 3/19/02 for the reason(s) set forth below or on the attached Notice To Comply With The Sequence Rules or Raw Sequence Error Report.

Since the above-mentioned reply appears to be *bona fide*, applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Guzo whose telephone number is (703) 308-1906. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Irem Yucel, can be reached on (703) 305-1998. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding or relating to attachments to this Office Action should be directed to Patent Analyst Zeta Adams whose telephone number is (703) 305-3291.

David Guzo
April 30, 2002


DAVID GUZO
PRIMARY EXAMINER



PATENT & TRADEMARK OFFICE

Application No. 09/689343

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821 - 1.825 for the following reason(s):

1. This application clearly fails to comply with the requirements of 37 CFR 1.821 - 1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.
2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 CFR 1.821(c).
3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e).
4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked-up "Raw Sequence Listing."
5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).
6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 CFR 1.821(e).

- 7.

Other: _____

Applicant must provide:

- An initial or substitute computer readable form (CRF) copy of the "Sequence Listing"
- An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification
- A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 CFR 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d)

For questions regarding compliance with these requirements, please contact:

For Rules Interpretation, call (703) 308-1123

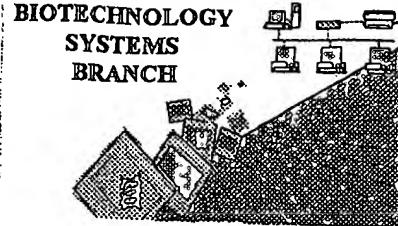
For CRF submission help, call (703) 308-4212

For PatentIn software help, call (703) 557-0400

Applicant's Copy

O I P E
MAY 11 2002 SC2A
PATENT & TRADEMARK OFFICE

RAW SEQUENCING LISTING
ERROR REPORT



TECH CENTER 1600/2600
MAY 16 2002

#7
RECEIVED
MAY 16 2002

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/689,343A
Source: 1600
Date Processed by STIC: 5/16/2002

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name,
Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two,
2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office,
Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

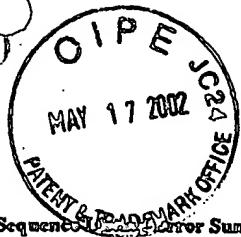
Revised 01/29/2002

RECEIVED

APR 25
2002

TECH CENTER 2000/2900

Raw Sequence Computer Summary



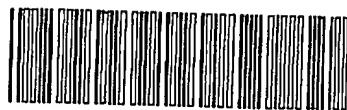
ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 09/689,343A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleic Acid
Wrapped Amino Acid
The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to 3; this will prevent "wrapping".
- 2 Invalid Line Length
The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino Acid Numbering
The numbering under each 5^a amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII
The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length
Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
"bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) 4. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences (OLD RULES)
Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 Skipped Sequences (NEW RULES)
Sequence(s) missing. If Intentional, please insert the following lines for each skipped sequence.
<210> sequence id number
<400> sequence id number
000
- 9 Use of n's or Xaa's (NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 10 Invalid <213> Response
Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence.
- 11 Use of <220>
Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0
"bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n
n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.



1636

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/689,343A

DATE: 04/16/2002
TIME: 11:52:53

Input Set : A:\NEB-181.txt
Output Set: N:\CRF3\04162002\I689343A.raw

5-6
See P.M.
Does Not Comply
Corrected Diskette Needed

3 <110> APPLICANT: VAISVILA, ROMUALDAS
4 MORGAN, RICHARD D.
5 KUCERA, REBECCA B.
6 CLAUS, TOBY E.
7 RALEIGH, ELISABETH A.
9 <120> TITLE OF INVENTION: METHOD FOR CLONING AND PRODUCING THE MseI RESTRICTION
10 ENDONUCLEASE
12 <130> FILE REFERENCE: NEB-181
14 <140> CURRENT APPLICATION NUMBER: 09/689,343A
15 <141> CURRENT FILING DATE: 2000-10-12
17 <160> NUMBER OF SEQ ID NOS: 9
19 <170> SOFTWARE: PatentIn Ver. 2.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 903
23 <212> TYPE: DNA
24 <213> ORGANISM: Micrococcus sp.
26 <220> FEATURE:
27 <221> NAME/KEY: CDS
28 <222> LOCATION: (1)..(900)
30 <400> SEQUENCE: 1
31 atg cct atc tcg acc gtc tgg acg ccg gac gga gac gac ctc atc gtg 48
32 Met Pro Ile Ser Thr Val Trp Thr Pro Asp Gly Asp Asp Leu Ile Val
33 1 5 10 15
35 gag gcg gac aac ctc gat ttc att caa acg ctc ccc gac gcg agc ttc 96
36 Glu Ala Asp Asn Leu Asp Phe Ile Gln Thr Leu Pro Asp Ala Ser Phe
37 20 25 30
39 cga atg atc tac atc gat ccg ccg ttc aac aca ggg cga acg cag cgg 144
40 Arg Met Ile Tyr Ile Asp Pro Pro Phe Asn Thr Gly Arg Thr Gln Arg
41 35 40 45
43 ctt cag tcg ctc aag acg acc cgc tcg gtc aca ggg tcg cga gtc ggc 192
44 Leu Gln Ser Leu Lys Thr Thr Arg Ser Val Thr Gly Ser Arg Val Gly
45 50 55 60
47 ttc aaa ggc cag acg tac gac acg gtc aag acg act ctg cac tcg tat 240
48 Phe Lys Gly Gln Thr Tyr Asp Thr Val Lys Ser Thr Leu His Ser Tyr
49 65 70 75 80
51 gac gac gct ttc acc gac tat tgg tcg ttc ctc gaa ccg cgt ctc ctg 288
52 Asp Asp Ala Phe Thr Asp Tyr Trp Ser Phe Leu Glu Pro Arg Leu Leu
53 85 90 95
55 gag gct tgg cgg ttg ctc acc cct gac ggc gcg ctc tat ctt cat ctg 336
56 Glu Ala Trp Arg Leu Leu Thr Pro Asp Gly Ala Leu Tyr Leu His Leu
57 100 105 110
59 gat tac cgc gag gtt cac tac gcc aag gtc gtc ctc gac gcg atg ttc 384
60 Asp Tyr Arg Glu Val His Tyr Ala Lys Val Val Leu Asp Ala Met Phe

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,343A

DATE: 04/16/2002

TIME: 11:52:53

Input Set : A:\NEB-181.txt

Output Set: N:\CRF3\04162002\I689343A.raw

61	115	120	125	
63	gga cgc gaa agc ttc ctg aac gag ctg atc tgg gcg tac gac tac ggc			432
64	Gly Arg Glu Ser Phe Leu Asn Glu Leu Ile Trp Ala Tyr Asp Tyr Gly			
65	130	135	140	
67	gcg cgc tcg aag aag tgg ccc acc aag cac gac aac atc ctc gtg			480
68	Ala Arg Ser Lys Ser Lys Trp Pro Thr Lys His Asp Asn Ile Leu Val			
69	145	150	155	160
71	tat gtg aag gac ccg aac aac tac gtc tgg aac ggt cag gat gta gat			528
72	Tyr Val Lys Asp Pro Asn Asn Tyr Val Trp Asn Gly Gln Asp Val Asp			
73	165	170	175	
75	cgc gag ccc tac atg gcg ccc ggg ctc gtt aca ccc gag aag gta gcg			576
76	Arg Glu Pro Tyr Met Ala Pro Gly Leu Val Thr Pro Glu Lys Val Ala			
77	180	185	190	
79	ctt ggc aag ctg ccc acc gac gtc tgg tgg cac aca atc gtt ccg cct			624
80	Leu Gly Lys Leu Pro Thr Asp Val Trp Trp His Thr Ile Val Pro Pro			
81	195	200	205	
83	gcg agc aaa gag cgc acc ggg tac gcg aca cag aag ccg gtc ggc atc			672
84	Ala Ser Lys Glu Arg Thr Gly Tyr Ala Thr Gln Lys Pro Val Gly Ile			
85	210	215	220	
87	atc cgt cgc atg att cag gcg agc agc aat gaa ggc gac tgg gtt ctg			720
88	Ile Arg Arg Met Ile Gln Ala Ser Ser Asn Glu Gly Asp Trp Val Leu			
89	225	230	235	240
91	gat ttc ttc gct ggt agt ggg acg acc ggc gcc gcg gcc cgc cag ctc			768
92	Asp Phe Phe Ala Gly Ser Gly Thr Thr Gly Ala Ala Ala Arg Gln Leu			
93	245	250	255	
95	gga cgc cgt ttt gtg ctc gta gac gtc aac cca gaa gca atc gcg gta			816
96	Gly Arg Arg Phe Val Leu Val Asp Val Asn Pro Glu Ala Ile Ala Val			
97	260	265	270	
99	atg gca aaa cgg ttg gat gac ggg gca ttg gac acc agc gtg acg atc			864
100	Met Ala Lys Arg Leu Asp Asp Gly Ala Leu Asp Thr Ser Val Thr Ile			
101	275	280	285	
103	gtg cag act ccc cag agt gac cca cga acc gac gga tga			903
104	Val Gln Thr Pro Gln Ser Asp Pro Arg Thr Asp Gly			
105	290	295	300	
108	<210> SEQ ID NO: 2			
109	<211> LENGTH: 300			
110	<212> TYPE: PRT			
111	<213> ORGANISM: Micrococcus sp.			
113	<400> SEQUENCE: 2			
114	Met Pro Ile Ser Thr Val Trp Thr Pro Asp Gly Asp Asp Leu Ile Val			
115	1	5	10	15
117	Glu Ala Asp Asn Leu Asp Phe Ile Gln Thr Leu Pro Asp Ala Ser Phe			
118	20	25	30	
120	Arg Met Ile Tyr Ile Asp Pro Pro Phe Asn Thr Gly Arg Thr Gln Arg			
121	35	40	45	
123	Leu Gln Ser Leu Lys Thr Thr Arg Ser Val Thr Gly Ser Arg Val Gly			
124	50	55	60	
126	Phe Lys Gly Gln Thr Tyr Asp Thr Val Lys Ser Thr Leu His Ser Tyr			
127	65	70	75	80

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,343A

DATE: 04/16/2002

TIME: 11:52:53

Input Set : A:\NEB-181.txt

Output Set: N:\CRF3\04162002\I689343A.raw

129 Asp Asp Ala Phe Thr Asp Tyr Trp Ser Phe Leu Glu Pro Arg Leu Leu
 130 85 90 95
 132 Glu Ala Trp Arg Leu Leu Thr Pro Asp Gly Ala Leu Tyr Leu His Leu
 133 100 105 110
 135 Asp Tyr Arg Glu Val His Tyr Ala Lys Val Val Leu Asp Ala Met Phe
 136 115 120 125
 138 Gly Arg Glu Ser Phe Leu Asn Glu Leu Ile Trp Ala Tyr Asp Tyr Gly
 139 130 135 140
 141 Ala Arg Ser Lys Ser Lys Trp Pro Thr Lys His Asp Asn Ile Leu Val
 142 145 150 155 160
 144 Tyr Val Lys Asp Pro Asn Asn Tyr Val Trp Asn Gly Gln Asp Val Asp
 145 165 170 175
 147 Arg Glu Pro Tyr Met Ala Pro Gly Leu Val Thr Pro Glu Lys Val Ala
 148 180 185 190
 150 Leu Gly Lys Leu Pro Thr Asp Val Trp Trp His Thr Ile Val Pro Pro
 151 195 200 205
 153 Ala Ser Lys Glu Arg Thr Gly Tyr Ala Thr Gln Lys Pro Val Gly Ile
 154 210 215 220
 156 Ile Arg Arg Met Ile Gln Ala Ser Ser Asn Glu Gly Asp Trp Val Leu
 157 225 230 235 240
 159 Asp Phe Phe Ala Gly Ser Gly Thr Thr Gly Ala Ala Ala Arg Gln Leu
 160 245 250 255
 162 Gly Arg Arg Phe Val Leu Val Asp Val Asn Pro Glu Ala Ile Ala Val
 163 260 265 270
 165 Met Ala Lys Arg Leu Asp Asp Gly Ala Leu Asp Thr Ser Val Thr Ile
 166 275 280 285
 168 Val Gln Thr Pro Gln Ser Asp Pro Arg Thr Asp Gly
 169 290 295 300
 172 <210> SEQ ID NO: 3
 173 <211> LENGTH: 1236
 174 <212> TYPE: DNA
 175 <213> ORGANISM: Unknown
 177 <220> FEATURE:
 178 <223> OTHER INFORMATION: Description of Unknown Organism: ENVIRONMENTAL DNA
 180 <220> FEATURE:
 181 <221> NAME/KEY: CDS
 182 <222> LOCATION: (1)..(1233)
 184 <220> FEATURE:
 185 <223> OTHER INFORMATION: At position 594, N = G, A, C or T
 187 <400> SEQUENCE: 3
 188 atg cct aca ctg gat tgg ccc ggt aaa cag tta agc ttc cca cca gct 48
 189 Met Pro Thr Leu Asp Trp Pro Gly Lys Gln Leu Ser Phe Pro Pro Ala
 190 1 5 10 15
 192 acc tcc ttg cat ctg gag agt gtg gtc act gag gga gcg gag tca ccg
 193 Thr Ser Leu His Leu Glu Ser Val Val Thr Glu Gly Ala Glu Ser Pro
 194 20 25 30
 196 cct aat cgt ctg att tgg gcg gac aac ctg ccg cta atg gta gat ttg 144
 197 Pro Asn Arg Leu Ile Trp Ala Asp Asn Leu Pro Leu Met Val Asp Leu
 198 35 40 45

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/689,343A

DATE: 04/16/2002

TIME: 11:52:53

Input Set : A:\NEB-181.txt

Output Set: N:\CRF3\04162002\I689343A.raw

266	Glu	Gly	Val	Ser	Phe	Thr	Phe	Glu	Arg	Gln	Glu	Thr	Phe	Thr	Leu	Pro	
267	305				310			315			320						
269	atc	cag	cca	ctt	cca	cca	gat	tgg	ttg	atc	atc	gcc	gag	gag	cag	att	1008
270	Ile	Gln	Pro	Leu	Pro	Pro	Asp	Trp	Leu	Ile	Ile	Ala	Glu	Gln	Ile		
271					325				330			335					
273	cgc	ctc	caa	gca	ccc	ttt	ctc	gta	gat	ttt	tgg	gaa	gtg	gac	gat	caa	1056
274	Arg	Leu	Gln	Ala	Pro	Phe	Leu	Val	Asp	Phe	Trp	Glu	Val	Asp	Asp	Gln	
275					340			345			350						
277	tgg	gat	ggc	aaa	atc	ttc	cgc	agc	cgt	cat	caa	ggc	tta	cgc	tcc	cgc	1104
278	Trp	Asp	Gly	Lys	Ile	Phe	Arg	Ser	Arg	His	Gln	Gly	Leu	Arg	Ser	Arg	
279					355			360			365						
281	ctt	cag	gag	cag	gag	ccg	ccg	ctc	tct	cta	cca	ttg	acc	ggg	aat	gga	1152
282	Leu	Gln	Gln	Ala	Pro	Leu	Ser	Leu	Pro	Leu	Thr	Gly	Asn	Gly	Leu		
283					370			375			380						
285	ttg	tgt	gta	cgg	gta	gtg	agc	cgt	gaa	ggg	gaa	tac	tat	gag	ttc	aca	1200
286	Leu	Cys	Val	Arg	Val	Val	Ser	Arg	Glu	Gly	Glu	Tyr	Tyr	Glu	Phe	Thr	
287					385			390			395						
289	ggt	cga	gcc	gat	agc	cct	cac	ccc	gta	tcg	ttt	tga					400
290	Gly	Arg	Ala	Asp	Ser	Pro	His	Pro	Val	Ser	Phe						1236
291					405			410									
294	<210>	SEQ	ID	NO:	4												
295	<211>	LENGTH:	411														
296	<212>	TYPE:	PRT														
297	<213>	ORGANISM:	Unknown														
299	<220>	FEATURE:															
300	<223>	OTHER INFORMATION:	At position 198, Xaa = any amino acid														
302	<400>	SEQUENCE:	4														
303	Met	Pro	Thr	Leu	Asp	Trp	Pro	Gly	Lys	Gln	Leu	Ser	Phe	Pro	Pro	Ala	
304						1		5			10			15			
306	Thr	Ser	Leu	His	Leu	Glu	Ser	Val	Val	Val	Thr	Glu	Gly	Ala	Glu	Ser	Pro
307						20			25			30					
309	Pro	Asn	Arg	Leu	Ile	Trp	Ala	Asp	Asn	Leu	Pro	Leu	Met	Val	Asp	Leu	
310					35			40			45						
312	Leu	Ala	Glu	Tyr	Glu	Gly	Lys	Ile	Asp	Leu	Ile	Tyr	Ala	Asp	Pro	Pro	
313					50			55			60						
315	Phe	Phe	Thr	Asp	Arg	Thr	Tyr	Ala	Ala	Arg	Ile	Gly	His	Gly	Glu	Asp	
316					65			70			75			80			
318	Ser	Arg	Arg	Pro	Gln	Thr	Trp	Gln	Leu	Ala	Glu	Gly	Tyr	Thr	Asp	Glu	
319						85			90			95					
321	Trp	Lys	Asp	Leu	Asp	Glu	Tyr	Leu	Asp	Phe	Leu	Tyr	Pro	Arg	Leu	Val	
322						100			105			110					
324	Leu	Met	Tyr	Arg	Leu	Leu	Ala	Pro	His	Gly	Thr	Leu	Tyr	Leu	His	Leu	
325						115			120			125					
327	Asp	Trp	His	Ala	Asn	Ala	Tyr	Val	Arg	Val	Leu	Leu	Asp	Glu	Ile	Phe	
328						130			135			140					
330	Gly	Arg	Gln	Arg	Phe	Leu	Asn	Glu	Ile	Val	Trp	Ile	Tyr	His	Gly	Pro	
331						145			150			155			160		
333	Ser	Ala	Ile	Arg	Arg	Ala	Phe	Lys	Arg	Lys	His	Asp	Thr	Ile	Leu	Val	
334						165			170			175					

See item 6 on Error Summary sheet

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/689,343A

DATE: 04/16/2002
TIME: 11:52:54

Input Set : A:\NEB-181.txt
Output Set: N:\CRF3\04162002\I689343A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 594
Seq#:3; Xaa Pos. 198
Seq#:4; Xaa Pos. 198

Use of <220> Feature(NEW RULES):

Sequence(s) are missing the <220> Feature and associated headings.
Use of <220> to <223> is MANDATORY if <213> ORGANISM is "Artificial Sequence" or "Unknown". Please explain source of genetic material in <220> to <223> section (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp.29631-32) (Sec.1.823 of new Rules)

Seq#:6

another error



Docket No.: NEB-181

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: R. Vaisvila, et al. EXAMINER: David Guzo

SERIAL NO.: 09/689,343 GROUP: 1636

FILED: October 12, 2000

FOR: Method For Cloning And Producing The *MseI*
Restriction Endonuclease

Hon. Commissioner of Patents
and Trademarks
Box Sequence, P.O. Box 2327
Arlington, VA 22202

RECEIVED

MAY 21 2002

TECH CENTER 1600/2900

Sir:

SEQUENCE LISTING

In accordance with 37 C.F.R. §§1.821-1.825, Applicants hereby request that the enclosed Sequence Listing be included in the above-identified Specification. No new matter is added by this amendment to the specification.

Respectfully submitted,

NEW ENGLAND BIOLABS, INC.

Date: May 14, 2002

Harriet Strimpel

Harriet M. Strimpel
(Reg. No.: 37008)
Attorney for Applicant
32 Tozer Road
Beverly, MA 01915